

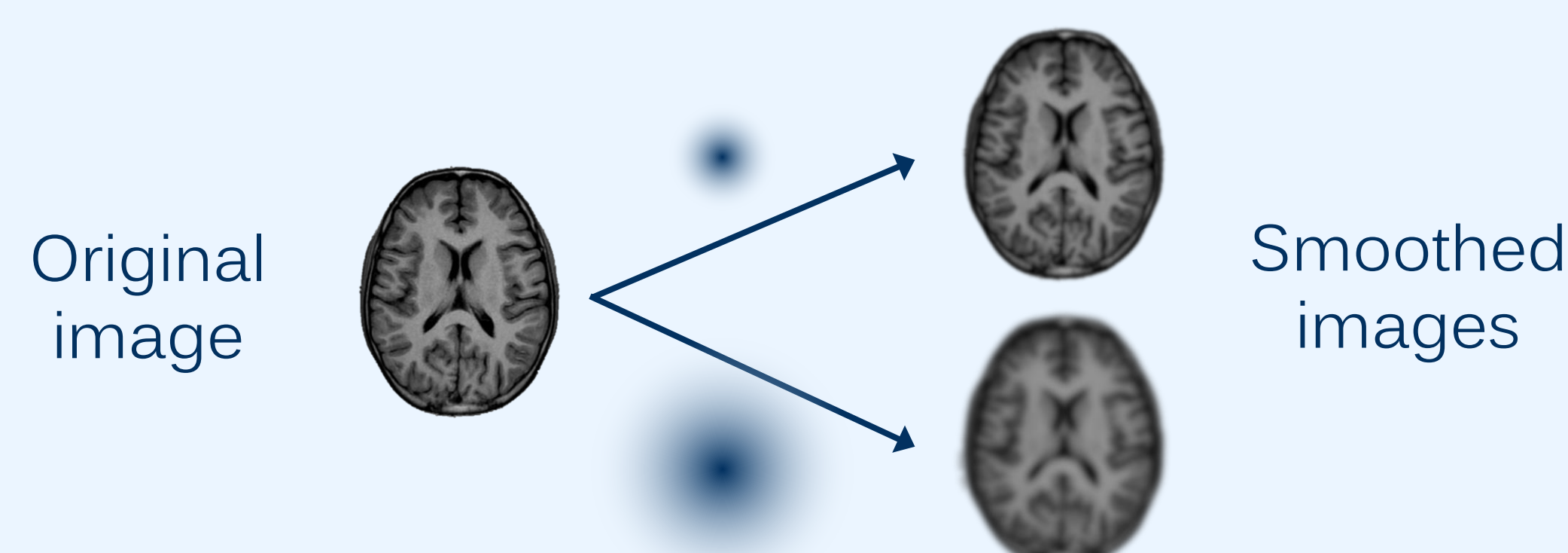
# The effect of spatial smoothing on representational similarity in a simple motor paradigm

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## INTRODUCTION

- Neuro-imaging data is smoothed.
  - What would be the 'optimal' level of smoothing?
  - Does this choice impact results?

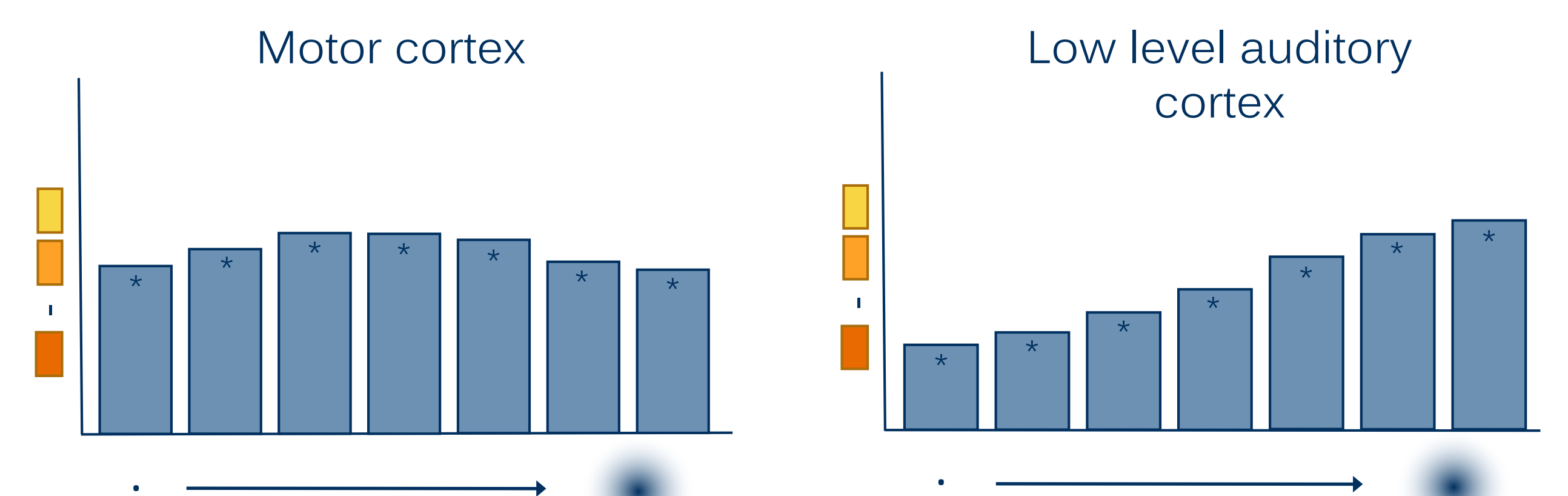


- Representational similarity matrix



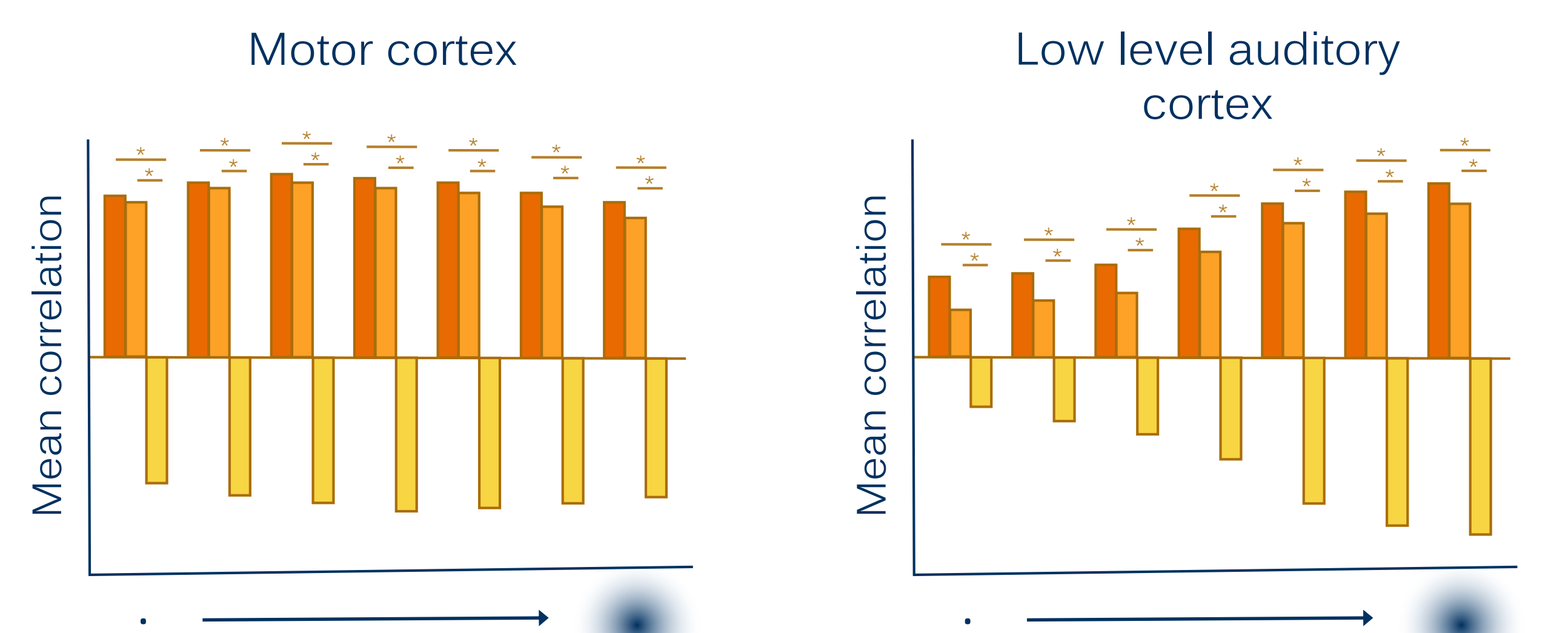
## RESULTS

- Effect of smoothing



- Reliably distinguish activity from different conditions
- No detrimental effect of moderate amounts of smoothing

- Effect of spatial scale



- Distinguish activity from different hands, not same hand
- No detrimental effect of moderate amounts of smoothing

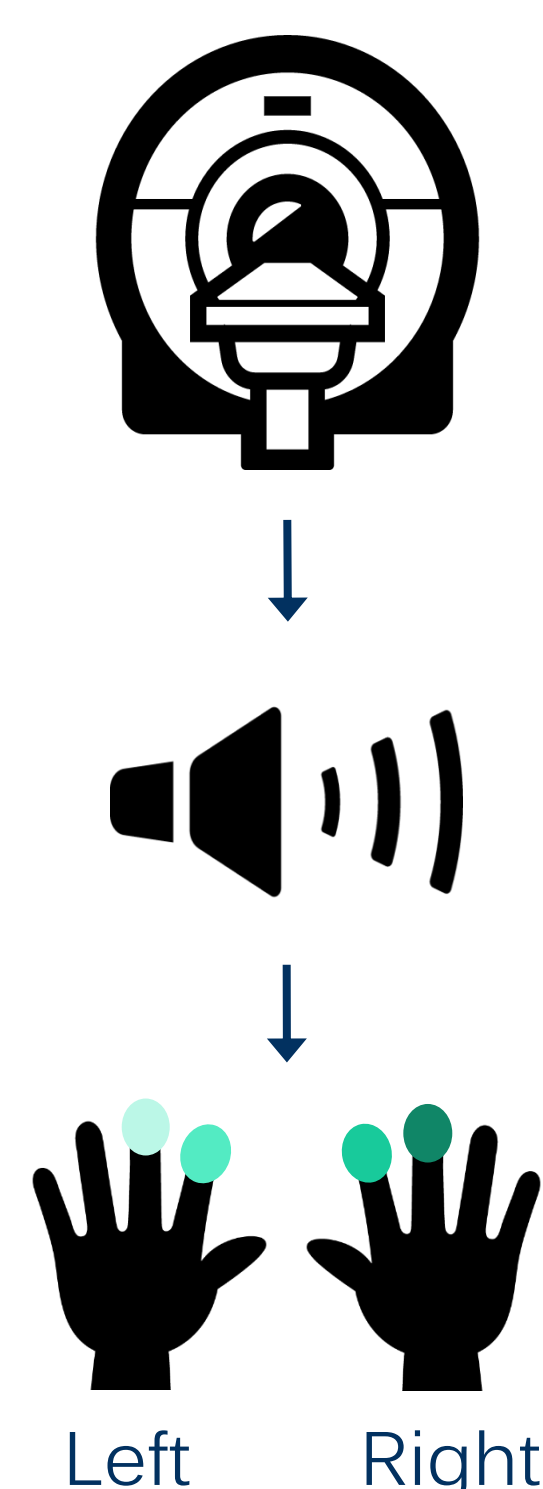
## METHODS



- N = 8
- 2 ♂, 6 ♀

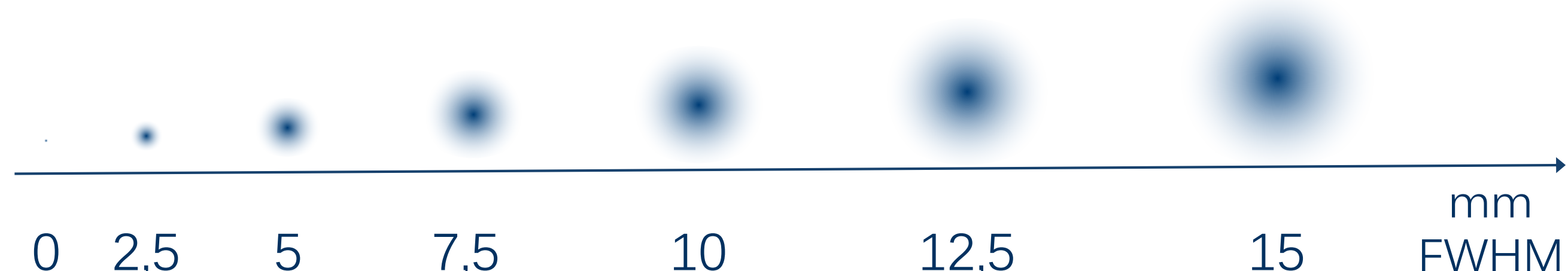
- fMRI while hearing auditory instructions

- Task  
"Move one of four fingers based on instructions"

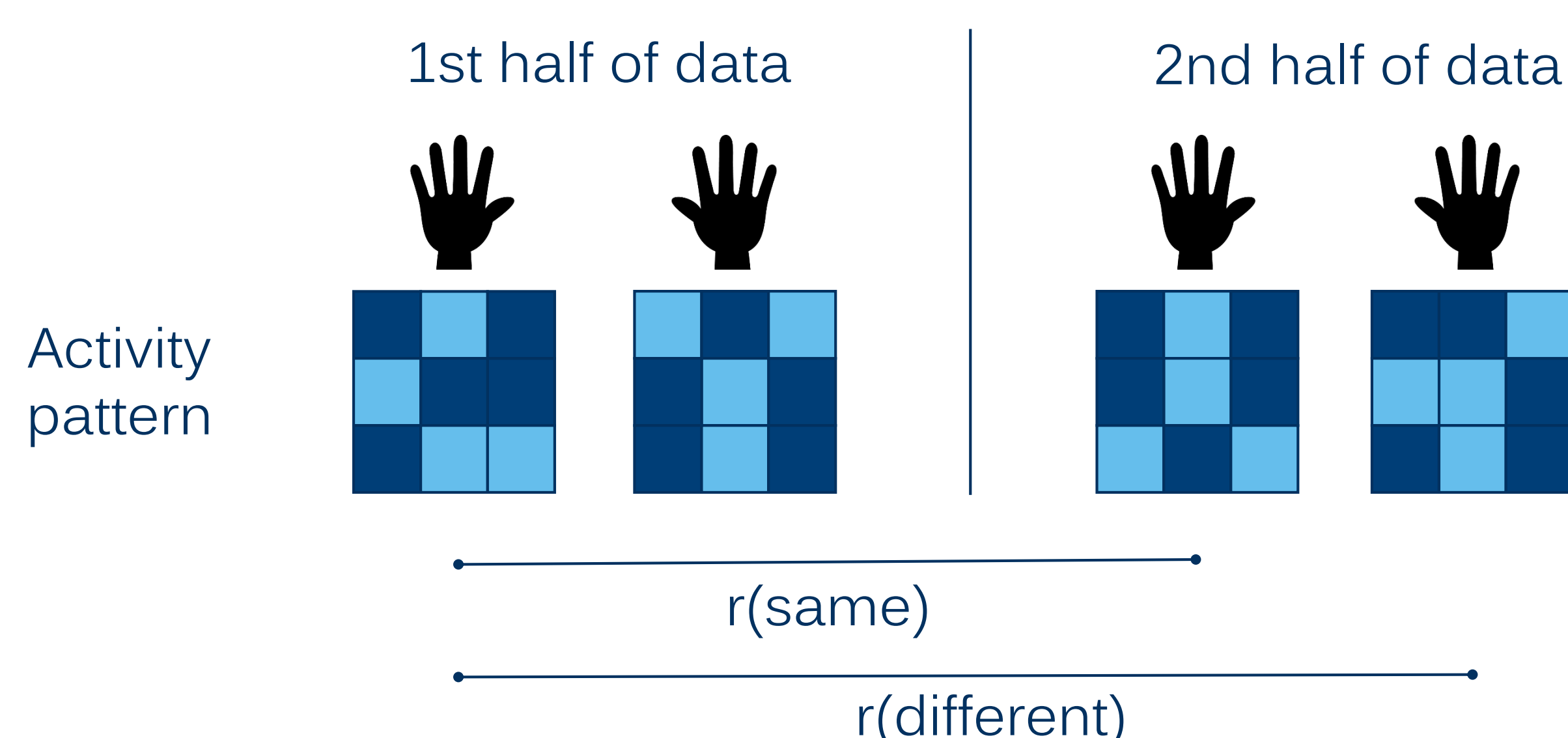


## ANALYSES

- 7 levels of smoothing



- Multivoxel pattern analyses (MVPA)



## CONCLUSION

- Minor positive effect of smoothing on results of correlational MVPA
- No universal optimal level of smoothing
- Seemingly arbitrary choices do impact results!

For more information

